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THE BREEDS OF CATTLE IN THE CENTRAL PROVINCES.

*Notes by VETERINARY-LIEUTENANT A. S. TRYDELL, Superintendent, Civil
Veterinary Department, Central Provinces.*

Other PAPERS that may be consulted :

Agricultural Ledger 1894, No. 14 (Cattle of Assam); 1895, Nos. 7 (Ongole and Nellore Cattle), 10 (Cattle of Burma), 12 (Cattle of Bahraich and Kheri), 19 (Mathura Cattle), 22 (Harriana and Sirsa), 24 (Mysore Cattle), 25 (Bankipur Cross-bred Cattle); 1896, No. 12 (Nellore Cattle).



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Correction.

The Agricultural Ledger No. 14 of 1898.

(Report on the Coal Supply of India.)

***Coal from Central Provinces, Mohpani Mines, Registration
Nos. 1648—1651.***

Owing to a clerical error a confusion has arisen between the railway address and the name of the above mines. The samples enumerated were all from the Mohpani Mines, Seams 1, 2, 3, 4.

On page 18, therefore, *instead of Gadawarra read Mohpani*. And on page 34, against Reg. Nos. 1649—1651, *instead of Gadawarra, read The Nerbudda Coal and Iron Company, Limited, Mohpani Coal Mine*.

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THE BREEDS OF CATTLE IN THE CENTRAL PROVINCES.

Notes by VETERINARY-LIEUTENANT A. S. TRYDELL, Superintendent, Civil Veterinary Department, Central Provinces.

The following information was collected from the districts of Nagpur, Seoni, Jabalpur, Mandla, Damoh, Saugor, Narsinghpur, Hoshangabad, Betul, Chhindwara, Wardha, Chanda and Bhandara. A certain amount of information was also collected at the Singaji Fair, Nimar; and Rajim Fair, Raipur. With the exception of the last named, I believe the abovementioned districts are where the best stamp of cattle is to be found.

2. In these districts, cattle which should be looked upon as belonging to the Central Provinces, are all those which are not actually on the borders of districts adjoining other Presidencies or Provinces, as for example, in Saugor, Narsinghpur, and Hoshangabad. For instance, many importations amongst the herds come from Gwalior, Bhopal, etc. The Nimar herds comprise cattle (I gathered this information from my visits at the Singaji Fair) brought from Indore, Khandesh, etc., whilst the Wardha and Chanda herds contain many from the Berars.

3. In the accompanying map,* (B) represents those places in which there are the so-called distinct breeds, viz., Paraspaul, Jeytipur, and Arvi. These cattle will be described separately. (W) represents that portion which has a prevailing colour of from stone grey to white, whilst (R) denotes where red and broken colours prevail (and which

Sources
of
information.

Central
Provinces
Cattle.

Breeds, &c.

* Not reproduced.

The Agricultural

GENERAL.	The Breeds of Cattle
GENERAL CATTLE.	colours the Nimari people prefer) but almost throughout the other districts white is looked upon as the best, in fact in Paraspali, Joytpur, and Arvi, coloured animals realize a very much lower price.
Partic- ular features. Height.	<p>4. The average height and size of the herds may be considered to be fairly even, the animals in some herds were, however, of much larger stamp. The height of bullocks throughout the Province (taken from behind the hump) usually ranged from 40 to 48 and 49 inches—<i>vide</i> Tables appended. In order to give a better idea of the different class of cattle, a few photographs* were taken. Photographs I., II., III. and IV. are very typical. In Nos. III. and IV. the shape of horn, met with almost universally, is well known. Photographs Nos. V. and VI. are of an Arvi bred beast, and represent the type of head possessed by the three abovenamed breeds. The horns present nothing to indicate from which part of the country they come, they take no particular direction, and in length vary from less than an inch to 15 or 18 inches. Cattle (except in V. and VI.) have no distinct features, in other words there are no special points by which it can be said with any certainty in which district a bullock or cow was bred.</p>
Comp. pp. 10-12.	<p>5. The general uses of the cattle, with few exceptions, are for agricultural purposes, and when not required for such they are generally made to earn a living by drawing carts to markets or elsewhere. Their work does not require speed, but at the same time they are very active. Oxen for speed such as drawing tongas, rangles, etc., are specially bred or broken for that purpose.</p>
Uses.	<p>6. The ordinary cattle are not bred in the proper sense of the term. <i>The sires of all stock are the offspring of the herds</i> with which they graze until they reach the age at which they are considered ready to emasculate, <i>i.e.</i>, about 3 to 3½ years old. The cows are only of value for reproduction, their milking qualities are practically <i>nil</i>, they are seldom slaughtered, and are allowed to breed as long as they can. From this description it will therefore be noted that selection of either sex for the purpose of improving a herd is rarely resorted to, and these, taken together with the fact that during a greater part of the year grazing (which is only supplemented with a minimum quantity of grain whilst working) is quite insufficient to maintain an animal in proper condition, may be considered the</p>

How cattle are generally reproduced, and causes of inferior animals.

* Not reproduced.

In the Central Provinces. (A. S. Trydell.)	OXEN.
principal reasons which account for the smallness of the ordinary village herds.	CENTRAL PROVINCES CATTLE.
To recapitulate the primary causes for the inferiority of the herds the following may be given:—	Summary.
<p>(I.)—<i>Insufficient food.</i> This especially applies to cows which are merely stall-fed, thereby reducing their milk to a minimum in quality and quantity. One result of this is that calves take to grazing before their digestive organs are in a fit state to assimilate grass, especially when they happen to be dropped at times when the grazing is extremely deficient in nourishment.</p> <p>(II.)—<i>Cows being allowed to reproduce as long as they can.</i></p> <p>(III.)—<i>The absence of suitable bulls.</i></p> <p>(IV.)—<i>Neglecting to separate the young male progeny from the herds.</i></p>	
<p>I should observe that now and then I have met with a herd a little better than the average; this is in no way due to precautions, but more or less accidental, or perhaps to a better average supply of water and grass, taking the year all round. Instances may be quoted, as at Khorni and Dhuma (Seoni district), near Dhalogaon (Chanda district), and, generally speaking, lands in which <i>jowdri</i> and cotton are extensively grown.</p>	Exception to the rule.
<p>In the rice districts the cattle are mostly inferior, as for example in portions of Raipur and Bhandara where they only supplement grass with rice-straw. That good feeding does materially affect size and condition is invariably to be noted; in cases where animals are hand or stall-fed, and if commenced at an early age they often attain quite disproportionate sizes compared with the rest of a herd.</p>	
<p>7. The three above enumerated breeds, <i>vis.</i>, the Paraspani, Jeyt-pur and Arvi, although located in different parts of the Provinces, present more or less throughout the same features, and, I am inclined to believe, originated from the same stock. Photographs V. and VI. are of a bullock said to have been bred in the Arvi Tahsil (of the Wardha district). Selected fed cattle of such attain much larger proportions than the well-fed commoner village cattle. This will no doubt account for the size of Arvi oxen which I have seen, as the cows collected for me to see in the centre of these breeding tracts were very small and ill-conditioned, but Paraspani and Jeyt-pur</p>	The "Breeds."

COWS.

The Breeds of Cattle

**CHAKABETI
CATTLE.**

(and I believe Chakabeti in the Bhandara district) have excellent cows. This is a breed reputed to be exceptionally good, but I had not reached this village during my tours. The male progeny of these herds are got rid of by sale at the early ages of from a year to eighteen months, and only a proportionate number are retained for the purposes of serving cows.

8. I learned from a Malgusar, gowlies, and others that the Arvi herds are deteriorating very rapidly. They said this was due to the very insufficient grazing in the neighbourhood, and that numbers of cattle come from the Berars which help to feed down the grass during the rains almost as quickly as it grows; and that after this season of the year and as soon as the jowari* is cut there is only the "after-math" of the jowari crop to subsist upon. In villages where there is no "after-math," the jowari stalk is eked out until the rains set in again, and in some instances, gowlies send their herds to Mandla and other hilly districts to seek for forage during the hot months. That this herd should be allowed to deteriorate is the very greatest pity. Paraspani cattle are also driven to similar tracts for the same purpose, as water becomes scarce. Arvi and the surrounding country have a great reputation for possessing fine bullocks. The measurements of a few in the appended list were of selected animals; from these herds which had been bought young and cared for, but from what I gather, this breed is also becoming smaller and smaller.

With regard to Paraspani cattle, there are roughly 550 head, and comprise only cows with female and male calves of a year or fifteen months, and I think four "stud" bulls. These cattle are the property of four breeders, and are said to be carefully bred cattle.

Jeytpur (under Court of Wards Estate) are more or less of the same class, but I consider they have a more uniform appearance. The animals of both these herds have the Arvi shaped head (*vide* photographs Nos. V. and VI.), and they possess throughout the same shaped body and limbs, etc. Their colour is from stone grey to white with black feet, muzzle, and a black tuft to the tail. The uniformity of the horns of the Jeytpur especially is very good; they do not exceed more than four inches, and this regularity I think greatly adds to the appearance of a herd. The forehead is very

* *Andropogon Sorghum.*

in the Central Provinces.

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CATTLE.

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PROVINCES
CATTLE.

prominent, large and convex, with a slight depression running in a longitudinal direction, ears slightly depressed (except when listening, when they assume a horizontal position).

9. To draw a distinction between Paraspani or Jeytpur or the better class Arvi, would be very difficult, at any rate taking them individually. As a *herd*, the horns of the Jeytpur would be counted as a distinguishing feature. The faults with the Jeytpur and Paraspani are that the cows are very leggy and have narrow loins; in fact they are too light. I, however, consider that if a better selection of bulls with more opposite points was observed, and supplementing the forage with grain, a most excellent stamp of large powerful cattle should result. The stud bulls of Paraspani had much the same weak points which the cows possess. The only bull I saw in the Jeytpur herd was a recent importation from Arvi. It was a fairly suitable animal.

Although this village is under Court of Wards Estates, the people are not in the least prepared to take measures against attacks of contagious disease, a fact I have already represented. I tried to impress on the breeders at Paraspani the importance of having an isolation paddock, etc., but I fear with little result.

I am sorry to say that I could not take any measurements of these cows as they are very timid, and it was quite a difficult matter to get in amongst them; but I should say they averaged something like 46 or 48 inches.

10. Nimar cattle do not attain a large size, but are from medium to small in height, they are active in appearance, and their general conformation good; they showed a fair amount of breeding, and a few were very well bred. Health and condition seemed good. They have no remarkable or distinguishing features. The colours are red, red and white, and white and black, and white, the two former prevailing. The line of the back is broken at the junction of the lumbar and sacral vertebrae, and from here to the tail it takes from a slight to a considerable downward direction. The tail is usually set too high, and is perhaps too thick. The hump is fairly well developed. The neck proportionate, the loins level, but scarcely wide enough, the pelvis is also wanting in breadth, the head well put on, the ears carried horizontally or depressed, eyes bright and intelligent, flat forehead with a vertical depression, the horns take

Nimar Cattle.

The Breeds of Cattle

any direction and vary in length, the limbs strong and well apart, hoofs black, strong and with a close cleft, dewlap seldom big, sheath varies considerably.

Bulls.—There were but two or three at the Singaji Fair; and they were small (but with a well developed hump). I shall defer describing them until I have toured through the district, when I hope to see others as I hear there are several very fine ones.

Cows.—Without an exception, these were ill-fed, ill-conditioned and undersized with small udders, and practically no hump.

11. Prices of cattle vary very much according to the class and condition and may be said to range from Rs 5 to Rs 50 a pair. I have known of pairs of large trotting Arvi-gauloo type fetching as much as Rs 50.

An ordinary good pair, fairly matched, will cost from Rs 8 to Rs 12, having an average height of 47 inches. Singly they may be obtained for less than half the cost of a pair.

Cows can be bought from Rs 7 to Rs 10, and those which give about four to five quarts of milk per diem, from Rs 8 to Rs 15. I have on two occasions in the district paid for a cow (in calf) Rs 10 each, which I had picked out of herds. They were very ordinary village cattle, but with good food each gave four quarts per diem. The ordinary cow gives about a quart to a quart and a half in the day.

Paraspani young males, from a year to fifteen months, are said to realize from Rs 10 to Rs 25 per head, but the Superintendent of the Agricultural Farm, Nagpur (Mr. Joshi), says Jeytpur cattle at the same ages command from Rs 60 to Rs 70 apiece. The distance between these places is only 17 miles, and as they are practically of the same breed, this statement must be received with caution. Paraspani and Jeytpur cows cannot well be priced as they are specially kept for breeding, and the owners will not sell them.

It is often a very difficult matter to find out the value of male cattle: as an instance of this, a Malgunar was asked at what he valued a nice looking three-year old bull, and he said, Rs 15. So I said will you sell him to me for that. "No" was the reply. I then asked if he would take fifty and even raised my offer to a hundred, but he finally said, I cannot sell him as I require him for ploughing.

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<p>12. The feeding of all is described above, when grain is given it is usually the cheapest which can be bought in the district. Linseed and TM cake form the most common feed stuff. Herds are taken out to graze in the early morning; they are usually watered twice a day, and are penned at sunset. Even such cattle as the Jeytpur are confined at night in an area which causes considerable crowding, and in the hot months it must be very trying and of course does not tend to improve them.</p>	<p>CATTLE. Feeding and Management.</p>
<p>Hay is not made to anything like the extent it might be, even when there is an abundance of grass about.</p>	
<p>13. Diseases.—This subject has been fully dealt with by Veterinary Captain Gunn in his Cattle Disease Report of the Central Provinces.</p>	<p>Prevalent diseases and their treatment.</p>
<p>Common wounds and maladies do not trouble the owners much. Mud and indigo are the chief dressings for wounds.</p>	
<p>Castration is performed in the same fashion as in other parts of India and at the same ages, viz., by the crushing operation at the age of about 3 years. My observations show that bad results rarely follow this method.</p>	
<p>Attached will be found a list of the vernacular names of the commoner diseases.</p>	
<p>14. In conclusion I would like to make a few remarks as to how I consider attempts to improve cattle should be made. One was tried by the importation of two Veerabhadriah bulls (from Mysore), but in my opinion such a selection for these provinces was a mistake, as they are much too large and heavy for any except for the Paraspani breed and such class of cattle; but the entire difference in colour, shape of head and horns, would result in producing more of a mongrel than cross. This class of bull would entirely destroy the distinctive features of the Paraspani head. If such a project is contemplated to improve the Central Provinces cattle, I would recommend it only for the larger breed. Paraspani bulls would be more suitable for improving the common small stamp. Judicious selection should be made from indigenous breeds, and the only difficulty which presents itself would be to get them at a suitable age, say about 3 or 4 years, as at anything much younger there could be no certainty as to what shape or size he would develop. It goes without saying that he should be kept well fed, and tested before sending him to a village.</p>	<p>Suggestions as to methods to be adopted to improve stock.</p>
<p>151-24</p>	

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<p>CENTRAL PROVINCES CATTLE.</p> <p>Suggestions on improvement of stock.</p>	<p>Should it be thought desirable to improve these young sires, I think with a certain amount of trouble and care, and by carrying it out on not too small a scale (as in the case of the above alluded to Mysore Bulls), that such a scheme—under the management of some persons really interested in cattle breeding—would in time be appreciated by these apathetic people. By producing a better sized animal, such as the Paraspani, it would possibly result in bringing down the present high prices of large pairs of bullocks. Against this suggestion, however, it would seem that the people are apparently satisfied with the small sized animals they possess, as they carry out all the requirements of their agricultural pursuits. But I would suggest that perhaps certain villages under Court of Wards Estates might be chosen where useful experiments could be carried out.</p> <p>The points to be avoided in making experiments are:—</p> <p>(i)—Not to place bulls amongst herds of a too inferior class, as such physique more or less indicates either a want of forage in the locality or that there are too many cattle for the grazing area, however good it may be.</p> <p>(ii)—Villages where ravages of rinderpest or other fatal outbreaks are of frequent occurrence.</p> <p>Villages might, for convenience of supervision, be selected near the Head Quarters of the Superintendent, Civil Veterinary Department, or any one who would really interest himself in the matter, in order that he could make frequent visits to such places. I do not find that it is all from ignorance that people take so little trouble about breeding, as in many instances well-to-do Malguzars quite understand what should be done, but probably laziness and an absolute want of the smallest enterprise prevents their carrying out such experiments. Possibly also the fact that they possess animals which suit their purposes deters them from moving out of their traditional grooves.</p> <p>My thanks are due to Mr. C. Pillay, Veterinary Inspector, Nagpur Veterinary Dispensary, who took the accompanying photographs.</p>

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**CENTRAL PROVINCES
CENTRE.**

Appendix I.

APPENDIX I.

English.

Vernacular.

Dysentery.	Aqesh.
Glanders and Farcy.	Sém.
Foot and Mouth Disease.	Khuri, Thond Khuri, Chan Khuri.
Rinderpest.	Maiba, Arji, Devi.
Paralysis.	Vai.
Anthrax.	Gelly.
Ringworm.	Gaj Karan.
Constipation.	Mal Band.
Dyspepsia.	Ajirna.
Jaundice.	Kámil.
Catarrh.	Sardhi.
Epilepsy.	Mirgi.
Pneumonia.	Popas.
Abortion.	Garb Vithan.
Worm in the eye.	Bavoo.
Debility.	Shinnatha.

M. AGUMENTS, ETC., OF THE CATTLE IN THE DISTRICTS OF NAGPUR, CHINDWARA, JABALPUR, AND MANDLA.

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APPENDIX II—contd.

MEASUREMENTS, ETC., OF THE CATTLE IN THE DISTRICTS OF DABHOI, SAVOOR, AND NARMADAPUR.

In the Central Provinces. (A. S. Trydell)													
No.	Age.	Height at withers.	Height at hip.	Height at elbow.	Length of body.	Length of neck.	Length of head.	Circumference of chest.	Circumference of girth.	Circumference of heart.	Circumference of hindquarters.	Circumference of tail.	Remarks.
1	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Danish.
2	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Would not stand measurement.
3	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Very fair. Superior.
4	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Evidently not bred in this district.
5	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Narmadapur.
6	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Would not stand measurement.
7	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Homologized with a mixed with cattle from Bhupal, etc. that measurements are not out; the same might be said of Narmadapur.
8	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Narmadapur.
9	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
10	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
11	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
12	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
13	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
14	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
15	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
16	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
17	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
18	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
19	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
20	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
21	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
22	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
23	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
24	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
25	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
26	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
27	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
28	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
29	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
30	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
31	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
32	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
33	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
34	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
35	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
36	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
37	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
38	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
39	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
40	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
41	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
42	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
43	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
44	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
45	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
46	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
47	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
48	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
49	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
50	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
51	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
52	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
53	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
54	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
55	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
56	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
57	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
58	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
59	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
60	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
61	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
62	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
63	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
64	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
65	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
66	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
67	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
68	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
69	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
70	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
71	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
72	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
73	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
74	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
75	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
76	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
77	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
78	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
79	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
80	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
81	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
82	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
83	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
84	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
85	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
86	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
87	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
88	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
89	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
90	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
91	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
92	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
93	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
94	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
95	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
96	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
97	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
98	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
99	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.
100	1	4	4	4	4	4	4	4	4	4	4	4	Pair. Red.

CHEN.
CENTRAL
PROVINCES
Appendix II.

2009

The Breeds of Cattle

**GENERAL INVESTING
CORP.**

APPENDIX II--contd.

MEASUREMENTS, ETC., OF THE CATTLE IN THE DISTRICTS OF CHANDA, SEONL, SINGOLI (NIMARI CATTLE ONLY).

[illegible]

in the Central Provinces.

(A. S. Trivedi.)

OXEN.

CENTRAL
PROVINCES
CATTLE.

Appendix II.

APPENDIX II—*contd.*
MEASUREMENTS, ETC., OF THE CATTLE IN THE DISTRICT OF WARRAH.
Breed Arva-Garloo (selected Cattle).

Serial No.	Sex.	Age.	Height at withers.	Height at elbow.	Length.	Length of horn.	Length of ear.	Length of face.	Breadth of face.	Shape of forehead.	Girth at chest.	Girth at abdomen.	Girth of loins.	Girth of shank.	Length of shank.	Length of shin.	Colour of skin.	Colour of hair.	REMARKS.
1	Bulluck	3	50 1/2	52 1/2	50	12	9	21	9	Coxes	66	75	13	14	18	8	Black	White	Hind's eyes, end of tail black, long horns. Ditto.
2	Ditto	7	51 1/2	53 1/2	55	8	10	21	9	"	70	75	15	7	17	8	"	"	Dewlap running into and continuous with sheath. Ditto.
3	Ditto	10	53	55	55	7	9	23	10	"	75	82	16	21	15	9	"	"	"
4	Ditto	12	55	56	50	12	9	20	9 1/2	"	75	82 1/2	14	21	15	9	"	"	"
5	Ditto	8	51 1/2	54	45	5	5 1/2	22	10	"	72	75	"	"	"	"	"	"	Black points, including tail.
6	Ditto	9	55	55	55	4 1/2	7	21	10 1/2	"	72	82	13	8	17	9 1/2	"	"	Black.
7	Cow, very big	10	56	58	51	12	11	23	10	"	75	86	17	21	22	9	"	"	Cow's horns as a rule much smaller.
8	Ditto	5	55	56	55	10	9 1/2	23	10	"	75	84	15	28	20	9	"	"	"
9	Cow (calved once in month).	9	45	52	47	14	9	23	10	"	65	72	12	7	17	9	"	"	"
10	Cow (calf once in month).	7	49	51	44	8	10	20	10	"	65	76	14	6 1/2	17	8	"	"	Black cow, narrow jaw.

Could not stand measurement.

• All communications regarding THE AGRICULTURAL LEDGER should be addressed to the Editor, Dr. George Watt, Reporter on Economic Products to the Government of India, Calcutta.

The objects of this publication (as already stated) are to gradually develop and perfect our knowledge of Indian Agricultural and Economic questions. Contributions or corrections and additions will therefore be most welcome.

In order to preserve a necessary relation to the various Departments of Government, contributions will be classified and numbered under certain series. Thus, for example, papers on Veterinary subjects will be registered under the Veterinary Series; those on Forestry in the Forest Series. Papers of more direct Agricultural or Industrial interest will be grouped according as the products dealt with belong to the Vegetable or Animal Kingdom. In a like manner, contributions on Mineral and Metallic subjects will be registered under the Mineral Series.

This sheet and the title-page may be removed when the subject-matter is filed in its proper place, according to the letter and number shown at the bottom of each page.

